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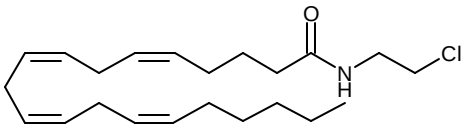
ProductInformation

Arachidonyl-2'-chloroethylamide hydrate
Product Number **A9719**
Storage Temperature: –20°C
CAS # 220556-69-4

Synonym: ACEA



Product Description

Molecular Formula: $C_{22}H_{36}NOCl \bullet H_2O$
Molecular Weight: 365.98 (anhydrous basis)

The existence of an endogenous cannabinoid system in the central nervous system and periphery has been demonstrated by research from the past twenty years.[1-3] Through a network of G-protein-coupled receptors and endogenous ligands, cannabinoids modulate several neurobiological processes including movement, cognition, and pain relief. More recent work has implicated the cannabinoid system in brain development[4] and cell migration.[5]

Two cannabinoid receptors, CB1[6] and CB2[7], have been identified. They share high sequence homology and, not surprisingly, recognize most high-affinity agonists within the same concentration range. Selective antagonists of the two receptors have been identified, but, until recently, only agonists with selectivity for CB2 over CB1 had been identified. Recently, two compounds with selectivity for CB1 over CB2 were synthesized.[8] Arachidonyl N-cyclopropylamide (ACPA) and arachidonyl-2-chloroethylamide (ACEA), analogs of endogenous N-arachidonylethanolamine (AEA), bind to the CB1 receptor with very high affinity and possess selectivity ratios for CB1 over CB2 of 325 and 2200, respectively. Importantly, these CB1-selective ligands retain the characteristics CB1 receptor agonists.

Preparation Instructions

Soluble DMSO. Insoluble in water.

Storage/Stability

Store tightly sealed under argon at –20°C protected from light.

References

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2. Mechoulam, R. et al., Biochem. Pharmacol., **48**, 1537 (1994).
3. Pertwee, R.G., Pharmacol. Ther., **74**, 129 (1997).
4. Fernandez-Ruiz, J. et al., Trends Neurosci., **23**, 14 (2000).
5. Song, Z.H. and Zhong, M., J. Pharmacol. Exp. Ther., **294**, 204 (2000).
6. Matsuda, L.A. et al., Nature, **346**, 561 (1990).
7. Munro, S. et al., Nature, **365**, 61 (1993).
8. Hillard, C.J. et al., J. Pharmacol. Exp. Ther., **289**, 1427 (1999).

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